AMENDMENTS TO THE CLAIMS

1. **(Original)** An isolated stem cell population wherein said stem cells are capable of self regeneration, capable of differentiation into ectodermal, mesodermal and endodermal cells and capable of adhering to tissue-culture grade plastic.

2. **(Previously presented)** The cell population according to claim 1, wherein said stem cells are further able to adhere to tissue-culture grade plastic within 3 hours after isolation, and to remain adherent for at least 72 hours.

3. **(Previously presented)** The stem cell population according to claim 1 wherein the cells are $CD33^-$, $CD38^-$, $HLA\text{-}DR^-$, $CD3^-$ and $CD19^-$.

4. **(Previously presented)** The stem cell population according to claim 1 which is enriched for cells which are also $Thy\text{-}1^+$.

5. **(Previously presented)** The stem cell population according to claim 1 which is enriched for cells which are also $AC133^+$ and/or $c\text{-}met^+$.

6. **(Previously presented)** The stem cell population according to claim 1 that expresses genes encoding Rex-1, Oct 4, Nanog, CD34, CD133, PECAM, VWF, Tal-1, CXCR4, Angiopoietin 1, Tie 2, TNNT1, Desmin, Nebulin, Connexin-43, GATA-4, VEGF, KDR, Angiopoietin 2, ICAM-2, VE cadherin, Alpha-1-antitrypsin, Cytokeratin 18, Nestin, Vimentin and c-met.

7. **(Previously presented)** The stem cell population according to claim 1 whose progeny produced after culturing express genes encoding CD133, PECAM, VWF, Tal-1, CXCR4, Angiopoietin-1, Nebulin, Troponin 1, VEGF, Angiopoietin 2, ICAM 2, Alpha-1-antitrypsin, Cytokeratin 18, LDLR, Albumin, HGF, transferrin, Alphafeto protein, Pax-6, Pdx=1, Insulin, IGF-1, NeuroD-1 and NGN3.

8. **(Previously presented)** The stem cell population according to claim 1 whose progeny express genes involved in insulin production.

9. **(Previously presented)** The stem cell population according to Claim 1, wherein the stem cells are adult stem cells.

10. **(Previously presented)** The stem cell population according to Claim 1, wherein the stem cell population comprises fetal cells obtained from a non-fetal sample such as an umbilical cord sample.

11. **(Previously presented)** The stem cell population according to claim 1 wherein the cells have the characteristics of those deposited with ECACC under accession No. 04092401.

12. **(Previously presented)** The stem cell population according to claim 1 which is mammalian in origin.

13. **(Previously presented)** The stem cell population according to claim 1 which is human in origin.

14. **(Previously presented)** The stem cell population according to claim 12 which is murine, equine or bovine in origin.

15. **(Previously presented)** The stem cell population according to claim 12 which is isolated or derived from a sample taken from a companion animal.

16. **(Previously presented)** The stem cell population according to claim 1 which does not require feeder layers during culturing thereof.

17. **(Original)** An isolated stem cell population capable of self regeneration and differentiation into ectodermal, mesodermal and endodermal cells, said population obtainable by:

(i) subjecting haemopoietic tissue to density gradient separation;

(ii) exposing low density cells to an affinity ligand for CD34;

(iii) recovering cells attached to said CD34 ligand;

(iv) exposing the $CD34^+$ subpopulation to tissue culture grade plastic; and

(v) recovering $CD34^+$ cells adherent to said plastic.

18. **(Original)** A culture comprising:

(i) a stem cell population wherein said stem cells are capable of adhering to tissue-culture grade plastic, capable of self regeneration and capable of differentiation into ectodermal, mesodermal and endodermal cells; and

(ii) a medium capable of supporting the growth of said stem cells.

19. **(Original)** A method of isolating a stem cell population wherein said stem cells are capable of adhering to tissue- culture grade plastic, capable of self regeneration and capable of differentiation into ectodermal, mesodermal and endodermal cells, which method comprises taking a sample of blood or bone marrow from a subject and extracting said cell population therefrom.

20. **(Previously presented)** The method of claim 19 which comprises:

(i) subjecting haemopoietic tissue to density gradient separation;

(ii) exposing low density cells to an affinity ligand for CD34;

(iii) recovering cells attached to said CD34 ligand;

(iv) exposing the $CD34^+$ subpopulation to a solid support; and

(v) recovering cells adherent to said solid support.

21. **(Previously presented)** The method according to claim 20 wherein the solid support is selected from tissue-culture grade plastic or glass.

22. **(Previously presented)** The method as claimed in claim 19 which further comprises a step of culturing said isolated population of stem cells.

23. **(Withdrawn)** A method of producing a population of target cells which comprises culturing the stem cell population as defined in Claim 1 with a plurality of growth factors which causes differentiation of said stem cell population.

24. **(Withdrawn)** The method as claimed in claim 23 wherein the target cell is selected from the group comprising liver, pancreatic, haemopoietic, neuronal and oligodendrocytic cells.

25. **(Withdrawn)** A method of culturing the stem cell population of Claim 1, comprising contacting said population with a plurality of growth factors which promote and/or sustain proliferation of said stem cell population.

26. **(Previously presented)** A cell population produced by the method of Claim 19.

27. **(Currently amended)** The cell population as claimed in Claim 1, 17 or 26 wherein the cell is capable of surviving cryopreservation.

28. **(Previously presented)** The cell population as claimed in any one of claims 1, 17, or 26 wherein a genome of said cells has been altered by insertion of a region of a nucleic acid.

29. **(Original)** The cell population of claim 28 wherein the genome is altered by insertion of DNA using a DNA virus, RNA virus or a retroviral vector.

30. **(Previously presented)** A cell population as claimed in any one of claims 1, 17, or 26, wherein a portion of a genome of said cells has been inactivated through the presence of an antisense nucleic acid molecule, a ribozyme sequence or an inhibitory RNA sequence.

31. **(Canceled)**

32. **(Canceled)**

33. **(Withdrawn)** A method of regenerating an organ or repairing a damaged organ of a patient which comprises administering to said patient cells according to any one of claims 1, 17 or 26.

34. **(Withdrawn)** The method according to claim 33 wherein the organ is selected from the group comprising the haemopoietic or immune system, liver, lung, pancreas, bone, cartilage, muscle, skin, brain or nervous system and heart or circulatory system.

35. **(Withdrawn)** The method according to Claim 33 wherein the cells are labelled with a traceable marker.

36. **(Withdrawn)** A method of cell transplantation which comprises introducing into a subject the cell population as claimed in any one of claims 1, 17 or 26.

37. **(Withdrawn)** A method of screening an agent for its organo-specific effects by exposing the cells produced by the method as claimed in claim 23 to said agent.

38. **(Withdrawn)** The method according to claim 37 wherein the agent is a toxin suspected of organo-specific toxicity.

39. **(Withdrawn)** The method according to claim 37 wherein the agent is a drug or therapeutic suspected of organo-specific toxicity.

40. **(Withdrawn)** The method according to claim 37 where the agent is a drug or therapeutic agent suspected of beneficial organo-specific effects.

41. **(Withdrawn)** An *in vitro* method of protein production which comprises

culturing the stem cells of any Claim 1 or a differentiated cell line derived therefrom, and

recovering one or more of the proteins expressed by said cells.

42. **(Withdrawn)** The method according to Claim 35, wherein the traceable marker is iron oxide or paramagnetic beads.